ABSTRACT

A method is provided for transferring a set of data over a network by monitoring the level of actual network bandwidth utilization. The method encompasses two embodiments that utilize different algorithms.

In a first embodiment, the method identifies a maximum monitored level of actual utilization and calculates a threshold level of utilization as a function of the maximum monitored level of utilization. The threshold level represents a level below which a set of data, such as a software update, may be transferred or downloaded over the network without interfering with other network activity at the network interface. If the actual level of utilization is less than the threshold level, at least a portion or segment of the data is received over the network. If the actual level of utilization remains below the threshold level for an extended period of time, data may be transferred over the network in progressively larger segments to take advantage of unused bandwidth.

In a second embodiment, the method identifies a maximum monitored level of actual utilization and calculates a size for data blocks to be transferred as a function of the maximum monitored level of utilization. The data blocks represent a segment of a set of data, such as a software update that may be transferred or downloaded over the network without interfering with other network activity at the network interface. The size of the data blocks are bounded by a maximum and minimum threshold value. Computed block sizes allow effective utilization of the network bandwidth while also allowing an adaptation that supports a degree of responsiveness both on fast and slow networks.